

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A golf ball comprising a center and a cover disposed over the center, wherein at least one interpenetrating polymer network is present in at least a portion of the golf ball outside the center, wherein the interpenetrating polymer network is formed from a material ~~comprising~~ consisting essentially of a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, ~~or a combination and combinations thereof.~~
2. (Original) The golf ball of claim 1, wherein the golf ball further comprises at least one intermediate layer disposed between the cover and the center.
3. (Original) The golf ball of claim 1, wherein the golf ball comprises a cover material having at least one of a dimple coverage of greater than about 60 percent, a hardness of greater than about 15 Shore A, or a flexural modulus of greater than about 500 psi, and wherein the golf ball has at least one of a compression no greater than about 120 or a coefficient of restitution of greater than about 0.7.
4. (Currently Amended) A golf ball comprising a ~~non-vulcanizable, non-aromatic, or non-ionomeric~~ interpenetrating polymer network in a portion of the golf ball, wherein the interpenetrating polymer network is formed from a material ~~comprising~~ selected from the group consisting of a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, ~~an acrylate homopolymer or copolymer, an alkyl acrylate homopolymer or copolymer, a homopolymer or copolymer including vinyl acetate groups, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, a homopolymer or copolymer including or made from a conjugated diene or a styrenic moiety, or a combination and~~

combinations thereof.

5. - 7. (Canceled)

8. (Previously Presented) A golf ball comprising a semi-IPN in a portion of the golf ball, wherein the semi-IPN is non-ionomeric.

9. (Original) The golf ball of claim 8, wherein the portion of the golf ball comprises at least one of a center, an intermediate layer disposed about the center, or a cover layer.

10. (Currently Amended) A golf ball comprising an interpenetrating polymer network formed from ~~having~~ at least two polymeric components selected from the group consisting of a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, and combinations thereof, wherein the IPN exhibits a ΔT_g between any two of the polymeric components at least about 5% less than the ΔT_g between a polymer blend comprising the same two polymeric components.

11. (Original) The golf ball of claim 10, wherein the IPN exhibits a ΔT_g between any two of the polymeric components at least about 20% less than the ΔT_g between a polymer blend comprising the same at least two polymeric components.

12. (Previously Presented) The golf ball of claim 10, wherein the IPN exhibits a ΔT_g between any two of the polymeric components at least about 50% less than the ΔT_g between a polymer blend comprising the same two polymeric components.

13. (Previously Presented) The golf ball of claim 10, wherein the IPN exhibits only one observable T_g for any two of the polymeric components.

14. (Currently Amended) A golf ball comprising an interpenetrating polymer network formed from having at least two polymeric components selected from the group consisting of a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, and combinations thereof, at least one of which is a crystallizable polymeric component that exhibits an area under a melting endotherm of at least about 2% less than the area under the melting endotherm of a homopolymer of the same crystallizable polymeric component.

15. (Original) The golf ball of claim 14, wherein the crystallizable polymeric component exhibits an area under a melting endotherm of at least about 10% less than the area under the melting endotherm of the homopolymer of the same crystallizable polymeric component.

16. (Currently Amended) A golf ball comprising an interpenetrating polymer network formed from having at least two polymeric components selected from the group consisting of a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, and combinations thereof, wherein at least one of the polymeric components exhibits an average phase size at least about 10% less than the average phase size of that phase separated component in a blend or mixture of the at least two components.

17. (Currently Amended) The golf ball of claim 16, wherein ~~[[the]]~~ at least one of the at least two polymeric component components exhibits an average phase size at least about 20% less than the average phase size of that phase separated component in a blend or mixture of the at least two components.

18. (Original) The golf ball of claim 1, wherein the center comprises a solid sphere or a fluid-filled sphere.

19. (Original) The golf ball of claim 2, wherein the at least one intermediate layer comprises a tensioned elastomeric material.
20. (Original) The golf ball of claim 2, wherein at least one of the center, the cover, or the intermediate layer has a foamed structure.
21. (Original) The golf ball of claim 1, wherein the cover comprises at least an inner cover layer and an outer cover layer.
22. (Currently Amended) A golf ball comprising a cover layer which comprises [[an]] a non-ionomeric interpenetrating polymer network having at least two polymeric components, wherein the shear resistance rating of the cover layer is at least 1 rating category lower than that measured for a cover layer comprising a polymer blend or mixture that is substantially free of IPN and that is made of the same components as the IPN.
23. (Original) The golf ball of claim 22, wherein the shear resistance rating of the cover layer is at most 2.
24. (Currently Amended) A process for forming a portion of a golf ball which comprises:
providing a golf ball center; and
disposing [[an]] a non-ionomeric IPN about the center to provide a portion of the golf ball, wherein the non-ionomeric IPN is formed from at least two polymeric components selected from the group consisting of a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, and combinations thereof.
25. (Original) The process of claim 24, wherein the IPN is included in an intermediate layer disposed about the center.

26. (Original) The process of claim 24, wherein the IPN is included in a cover layer disposed about the center.
27. (Currently Amended) The process of claim 24, wherein the interpenetrating polymer network is formed from a material comprising a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, or a combination and combinations thereof.
28. (Currently Amended) The process of claim 24, wherein the interpenetrating polymer network is formed from a material comprising an ~~acrylate homopolymer or copolymer, an alkyl acrylate homopolymer or copolymer, a homopolymer or copolymer including vinyl acetate groups,~~ a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, or a combination and combinations thereof.
29. (Canceled)
30. (Currently Amended) A process for forming a golf ball comprising:
providing a golf ball center;
providing a golf ball cover layer disposed over the center; and
optionally providing at least one intermediate layer disposed between the center and the cover layer, wherein at least a portion of the golf ball comprises an interpenetrating polymer network that is ~~non-vulcanizable, non-aromatic, or non-ionomeric~~ and formed from at least two polymeric components selected from the group consisting of a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, and combinations thereof.

31. (Currently Amended) The process of claim 30, wherein the interpenetrating polymer network is formed from a material comprising a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, ~~or a combination and combinations~~ thereof.

32. (Currently Amended) The process of claim 30, wherein the interpenetrating polymer network is formed from a material selected from the group consisting of comprising an acrylate homopolymer or copolymer, an alkyl acrylate homopolymer or copolymer, a homopolymer or copolymer including vinyl acetate groups, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, or a combination and combinations thereof.

33. - 38. (Canceled)

39. (Currently Amended) A golf ball comprising a core, and intermediate layer, and a cover, wherein the intermediate layer comprises an interpenetrating polymer network formed from a material selected from the group consisting of a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, and combinations thereof.

40. (Currently Amended) The golf ball of claim 39, wherein the interpenetrating polymer network is formed from a material selected from the group consisting of comprising a urethane, an epoxy homopolymer or copolymer, a homopolymer or copolymer having backbone or pendant ester groups, a polyimide or copolymer including imide groups, a polysilane homopolymer or copolymer, a silicone homopolymer or copolymer, a polysiloxane homopolymer or copolymer, or a combination and combinations thereof.

41. (Currently Amended) The golf ball of claim 39, wherein the interpenetrating polymer network is formed from a material selected from the group consisting of ~~comprising an~~ ~~acrylate homopolymer or copolymer, an allyl acrylate homopolymer or copolymer, a~~ ~~homopolymer or copolymer including vinyl acetate groups, a homopolymer or copolymer including halogen groups, a homopolymer or copolymer including a uretdione group, or a~~ combination and combinations thereof.

42. (Canceled)